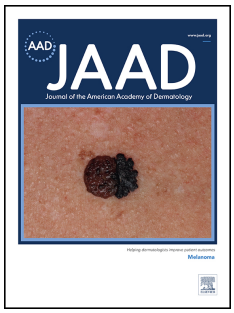
Preoperative Management of Blood Thinning Agents During Cutaneous Surgery

Gajebasia, Sareena; Kerr, Ron; Affleck, Andrew

Published in:
Journal of the American Academy of Dermatology

DOI:
10.1016/j.jaad.2020.08.075

Publication date:
2021



Preoperative Management of Blood Thinning Agents During Cutaneous Surgery: the need for an individualised approach

Dr Sareena Gajebasia, Dermatology Registrar, BMBS, iBSc(Hons), Dr Ron Kerr, Consultant Haematologist, MBChB, MRCP, FRCPath, MD, Dr Andrew Affleck, MBChB, MRCP

PII: S0190-9622(20)32470-1

DOI: https://doi.org/10.1016/j.jaad.2020.08.075

Reference: YMJD 15138

To appear in: *Journal of the American Academy of Dermatology*

Received Date: 3 July 2020

Revised Date: 11 August 2020

Accepted Date: 12 August 2020

Please cite this article as: Gajebasia S, Kerr R, Affleck A, Preoperative Management of Blood Thinning Agents During Cutaneous Surgery: the need for an individualised approach, *Journal of the American Academy of Dermatology* (2020), doi: https://doi.org/10.1016/j.jaad.2020.08.075.

Article type: Notes and Comments

Title: Preoperative Management of Blood Thinning Agents During Cutaneous Surgery: the need for an individualised approach

Dr Sareena Gajebasia

Dermatology Registrar

BMBS, iBSc(Hons)

Department of Dermatology, Ninewells Hospital, Dundee, UK

Dr Ron Kerr

Consultant Haematologist

MBChB, MRCP, FRCPath, MD

Department of Haematology, Ninewells Hospital, Dundee, UK

Dr Andrew Affleck

MBChB, MRCP

Consultant Dermatologist and Mohs Surgeon

Department of Dermatology, Ninewells Hospital, Dundee, UK

Word count: 499

References: 5

Funding: none.

Conflicts of interest: none.

Correspondence:

Dr Sareena Gajebasia

Department of Dermatology

Level 8, Ninewells Hospital, James Arrott Drive, Dundee, DD1 9SY

sareena.gajebasia@nhs.net

Twitter handle: Dr Andy Affleck @SherlockianDerm

Key words: dermatologic surgery, blood thinning medications, anticoagulant, antiplatelet, bleeding, risk, stroke

Taylor *et al.*[1] concluded that in Mohs Micrographic Surgery the risk of bleeding is very low and advocate staying on blood-thinning medications.[1] This is encouraging, however, complications arising from the documented bleeding events including skin graft failure and secondary infection, were not stated. This is important to know for the procedure outcome.

We propose a patient-centred approach when considering continuing or withholding blood-thinning medications during cutaneous surgery, taking into account the risk:benefit ratio of the medication and surgery. A fictional case will demonstrate this:

A 66-year-old diabetic female with atrial fibrillation, on a direct oral anticoagulant (DOAC) for stroke prevention, is due to have a 4cm squamous cell carcinoma on her scalp excised to the periosteum with a split-thickness skin graft repair.

The bleeding risk should be balanced against the risk of withholding the DOAC. CHA(2)DS(2)-VASc score predicts the risk of stroke,[2] and this patient scores 3 (sex, age and diabetes mellitus) which equates to a risk of 37 per 1000 people in one year having a stroke if not anticoagulated.[3] Therefore, this patient's risk of stroke on one day if not anticoagulated is estimated as 1 in 9865 ((37/1000)/365); although surgery-associated stress may increase this risk. The bleeding risk should be reviewed by assessing patient risk factors and their anticoagulant medication. A dermatologist cannot assume what is an acceptable risk to a patient nor presume to tell a patient to stop medications without a risk:benefit discussion; quantifying the risks may help. In the UK the Montgomery judgement conveys this concept and is a legal principle in informed consent.[4] It ruled that doctors have "a duty to take reasonable care to ensure that the patient is aware of any material risks involved".[4]

Careful consideration of blood-thinners should be given in other complex reconstructions eg. paramedian flap repair, local skin flaps, hard to compress sites eg. periocular, where excessive bleeding can be problematic. The anticoagulant should be considered. Warfarin

requires a longer cessation period (5-10 days) compared to DOACs (24-48 hours) to normalise coagulation and once restarted takes longer to achieve therapeutic anticoagulation, therefore it has an increased risk of thromboembolism on cessation compared to DOACs. Nuanced strategies may be considered; egs. swapping clopidogrel for aspirin as it is associated with less bleeding, performing surgery at the DOAC trough level, stopping one of two blood-thinning medications or adjusting the medication so that it has reduced but not zero efficacy. The patient's cardiologist or primary care physician should be consulted if modification is required.

The American College of Cardiology recommends performing procedures with uninterrupted anticoagulation when there is 'no clinically important bleeding risk'[5] which we suggest would be most dermatologic surgery. It may never be appropriate to stop blood-thinning medications in patients with coronary drug-eluting stents or valvular heart disease. However, there is a case for withholding/adjusting these medications when the risk:benefit ratio is favourable eg. individuals with a low risk of a vascular event undergoing complex skin surgery. We emphasise undertaking individual patient assessments and involving patients in the decision.

References

1. Taylor O, Carr C, Greif C, Garcia A, Tran S, Srivastava D, Nijhawan RI. Postoperative Bleeding Complications Associated with Blood Thinning Agents during Mohs Micrographic Surgery: A Retrospective Cohort Study. *Journal of the American Academy of Dermatology* 2020; doi: https://doi.org/10.1016/j.jaad.2020.06.011
2. Lip GYH, Nieuwlaat R, Pisters R, Lane DA, Crijns HJGM. Refining Clinical Risk Stratification for Predicting Stroke and Thromboembolism in Atrial Fibrillation Using

a Novel Risk Factor-Based Approach: The Euro Heart Survey on Atrial Fibrillation. *Chest* 2010;137(2):263-272.

3. National Institute for health and care excellence (NICE). Atrial fibrillation: medicines to help reduce your risk of a stroke – what are the options? Patient decision aid. NICE, 2014. Available from: https://www.nice.org.uk/guidance/cg180/resources/cg180-atrial-fibrillation-update-patient-decision-aid-243734797 [accessed 28/06/2020].
4. Montgomery v Lanarkshire Health Board [2015] UKSC 11, paragraph 87. Available from: https://www.supremecourt.uk/cases/docs/uksc-2013-0136-judgment.pdf [accessed 28/06/2020].
5. Doherty JU, Gluckman TJ, Hucker WJ et al. 2017 ACC Expert Consensus Decision Pathway for Periprocedural Management of Anticoagulation in Patients With Nonvalvular Atrial Fibrillation: A Report of the American College of Cardiology Clinical Expert Consensus Document Task Force. *J Am Coll Cardiol* 2017;69(7):871-898.

Taylor *et al.*[1] concluded that in Mohs Micrographic Surgery the risk of bleeding is very low and advocate staying on blood-thinning medications.[1] This is encouraging, however, complications arising from the documented bleeding events including skin graft failure and secondary infection, were not stated. This is important to know for the procedure outcome.

We propose a patient-centred approach when considering continuing or withholding blood-thinning medications during cutaneous surgery, taking into account the risk:benefit ratio of the medication and surgery. A fictional case will demonstrate this:

A 66-year-old diabetic female with atrial fibrillation, on a direct oral anticoagulant (DOAC) for stroke prevention, is due to have a 4cm squamous cell carcinoma on her scalp excised to the periosteum with a split-thickness skin graft repair.

The bleeding risk should be balanced against the risk of withholding the DOAC. CHA(2)DS(2)-VASc score predicts the risk of stroke,[2] and this patient scores 3 (sex, age and diabetes mellitus) which equates to a risk of 37 per 1000 people in one year having a stroke if not anticoagulated.[3] Therefore, this patient's risk of stroke on one day if not anticoagulated is estimated as 1 in 9865 ((37/1000)/365); although surgery-associated stress may increase this risk. The bleeding risk should be reviewed by assessing patient risk factors and their anticoagulant medication. A dermatologist cannot assume what is an acceptable risk to a patient nor presume to tell a patient to stop medications without a risk:benefit discussion; quantifying the risks may help. In the UK the Montgomery judgement conveys this concept and is a legal principle in informed consent.[4] It ruled that doctors have "a duty to take reasonable care to ensure that the patient is aware of any material risks involved".[4]

Careful consideration of blood-thinners should be given in other complex reconstructions eg. paramedian flap repair, local skin flaps, hard to compress sites eg. periocular, where

excessive bleeding can be problematic. The anticoagulant should be considered. Warfarin requires a longer cessation period (5-10 days) compared to DOACs (24-48 hours) to normalise coagulation and once restarted takes longer to achieve therapeutic anticoagulation, therefore it has an increased risk of thromboembolism on cessation compared to DOACs. Nuanced strategies may be considered; egs. swapping clopidogrel for aspirin as it is associated with less bleeding, performing surgery at the DOAC trough level, stopping one of two blood-thinning medications or adjusting the medication so that it has reduced but not zero efficacy. The patient's cardiologist or primary care physician should be consulted if modification is required.

The American College of Cardiology recommends performing procedures with uninterrupted anticoagulation when there is 'no clinically important bleeding risk'[5] which we suggest would be most dermatologic surgery. It may never be appropriate to stop blood-thinning medications in patients with coronary drug-eluting stents or valvular heart disease. However, there is a case for withholding/adjusting these medications when the risk:benefit ratio is favourable eg. individuals with a low risk of a vascular event undergoing complex skin surgery. We emphasise undertaking individual patient assessments and involving patients in the decision.

References

1. Taylor O, Carr C, Greif C, Garcia A, Tran S, Srivastava D, Nijhawan RI. Postoperative Bleeding Complications Associated with Blood Thinning Agents during Mohs Micrographic Surgery: A Retrospective Cohort Study. *Journal of the American Academy of Dermatology* 2020; doi: https://doi.org/10.1016/j.jaad.2020.06.011

2. Lip GYH, Nieuwlaat R, Pisters R, Lane DA, Crijns HJGM. Refining Clinical Risk Stratification for Predicting Stroke and Thromboembolism in Atrial Fibrillation Using

a Novel Risk Factor-Based Approach: The Euro Heart Survey on Atrial Fibrillation. *Chest* 2010;137(2):263-272.

3. National Institute for health and care excellence (NICE). Atrial fibrillation: medicines to help reduce your risk of a stroke – what are the options? Patient decision aid. NICE, 2014. Available from: https://www.nice.org.uk/guidance/cg180/resources/cg180-atrial-fibrillation-update-patient-decision-aid-243734797 [accessed 28/06/2020].
4. Montgomery v Lanarkshire Health Board [2015] UKSC 11, paragraph 87. Available from: https://www.supremecourt.uk/cases/docs/uksc-2013-0136-judgment.pdf [accessed 28/06/2020].
5. Doherty JU, Gluckman TJ, Hucker WJ et al. 2017 ACC Expert Consensus Decision Pathway for Periprocedural Management of Anticoagulation in Patients With Nonvalvular Atrial Fibrillation: A Report of the American College of Cardiology Clinical Expert Consensus Document Task Force. *J Am Coll Cardiol* 2017;69(7):871-898.